

What's claimed is:

1. A method for radio RF resources allocation in multi-standard wireless communication systems, comprising:

- (a) detecting a plurality of received signals from a uplink, wherein said signals contain information on the types of the different wireless communication schemes which are requested to access; and
- (b) allocating the radio RF resources shared by said different communications schemes according to said detected information.

10 2. The method of claim 1, wherein step (b) further includes:

(b1) carrying out a statistic of the information on the requests for accessing each of said different wireless communication schemes in a set interval; and

15 (b2) allocating said RF resources shared by said different wireless communication schemes according to said statistic of the set interval.

20 3. The method of claim 2, wherein said information on the requests for accessing each of said different wireless communication schemes includes the number of the requests for accessing each of said different wireless communication schemes.

4.The method of claim 3, wherein in step (b2), the allocation of said RF resources is realized by calculating the ratio of the number of the requests for accessing each of said different wireless communication schemes.

5 5.The method of any of claims 2-4, wherein in step (b1), said statistic is achieved by carrying out a statistic of said information on the requests for accessing each of said different wireless communication schemes within the set whole interval.

10 6.The method of any of claims 2-4, wherein in step (b1), said statistic is achieved by carrying out a statistic of said information on the requests for accessing each of said different wireless communication schemes within rush hours of the set interval.

15 7.The method of claim 1, wherein step (b) further includes:
(b2) judging whether there are RF resources available for the requests for accessing said different wireless communication schemes; and
(b3) allocating said available RF resources to said requests, if there are RF resources available for said requests.

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8.The method of claim 1, wherein step (b) further includes:

(b1) pre-allocating said RF resources to a specific communication scheme;

(b2) judging whether there are RF resources available for the requests for accessing the different wireless communication schemes, if the different
5 wireless communication schemes are not the specific communication scheme; and

(b3) allocating said available RF resources to said requests, if there are RF resources available for said requests.

10 9.The method of claims 7 or 8, wherein step (b2) and (b3) are executed in following condition:

subscribers send said connection requests for accessing said different wireless communication schemes.

15 10.The method of claims 7 or 8, wherein step (b2) and (b3) are executed in following condition:

subscribers which carry out cell handover send said handover requests for accessing said different wireless communication schemes.

20 11.The method of claims 7 or 8, wherein step (b3) further includes:

(i) judging whether there are RF carrier available for said requests, if

there are no RF resources available for said requests for accessing said wireless communication schemes; and

(ii) allocating said available RF carrier to said wireless communication schemes, if there are RF carriers available for said requests, and allocating the
5 corresponding RF resources to said requests.

12. The method of claim 11, wherein step (ii) further includes:

when the communications employing said wireless communication schemes ends , said RF carriers allocated to said requests are released.

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13. The method of claim 11, wherein step (ii) further includes:

if there are no RF carriers available for said requests, said requests are rejected.

15 14. The method of claim 1, said wireless communication schemes include at least two of following: IS-95, CDMA, GSM, TSM, GPRS, TD-SCDMA, W-CDMA cdma 2000 and WLAN.

20 15. A device for RF resources allocation in multi-standard wireless communication systems, comprising:

a status detector, detecting a plurality of received signals from a uplink,

wherein said signals contain information on the types of the different wireless communication schemes which are requested to access; and

a resource allocator, allocating the RF resources shared by said different communications schemes according to said detected information.

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16. The device of claim 15, wherein said resource allocator allocates said RF resources according to a statistic of the information on the requests for accessing each of said different communications schemes in a set interval.

10 17. The device of claim 16, wherein said information on the requests for accessing each of said different communications schemes includes the number of the requests for accessing each of said different communications schemes.

15 18. The device of claim 17, wherein said resource allocator realizes said RF resources allocation by calculating the ratio of the number of the requests for accessing each of said different wireless communication schemes.

19. The device of any of claims 16-18, wherein said statistic is achieved
20 by carrying out a statistic of said information on the requests for accessing each of said different wireless communication schemes within the set whole

interval.

20.The device of any of claims 16-18, wherein, said statistic is achieved by carrying out a statistic of said information on requests for accessing each
5 of said different wireless communication schemes within rush hours of the set interval.

21.The device of claim 15, wherein said RF resources allocation executed by said resource allocator includes:

10 (b) judging whether there are RF resources available for the requests for accessing said different wireless communication schemes; and
(c) allocating said available RF resources to said requests, if there are RF resources available for said requests.

15 22.The device of claim 15, wherein said RF resources allocation executed by said resource allocator includes:

(a) pre-allocating said RF resources to a specific communication scheme;
(b) judging whether there are RF resources available for the requests for accessing the different wireless communication schemes, if the different
20 wireless communication schemes are not the specific communication scheme;
and

(c) allocating said available RF resources to said requests, if there are RF resources available for said requests.

23.The device of claims 21 or 22, wherein step (b) and (c) are executed

5 in following condition:

subscribers send said connection requests for accessing the different wireless communication schemes.

24.The device of claims 21 or 22, wherein step (b) and (c) are executed

10 in following condition:

subscribers which carry out cell handover send said handover requests for accessing the different wireless communication schemes.

25.The device of claims 21 or 22, wherein said RF resources allocation

15 executed by said resource allocator includes:

judging whether there are RF carriers available for said requests for accessing the different wireless communication schemes, if there are no RF resources available for said requests; and

allocating said available RF carriers to the different wireless
20 communication schemes, if there are RF carriers available for said requests,
and allocating the corresponding RF resources to said requests.

26.The device of claim 25, wherein said RF resources allocation executed by said resource allocator includes:

when the communications employing said different wireless communication schemes end, said RF carriers allocated to said requests are
5 released.

27.The device of claim 25, wherein said RF resources allocation executed by said resources allocator includes:

if there are no RF carriers available for said requests, said requests are
10 rejected.

28.The device of claim 15, said different wireless communication schemes include at least two of following: IS-95, CDMA, GSM, TSM, GPRS, TD-SCDMA, W-CDMA, cdma 2000 and WLAN.

15 29.A wireless communication system, comprising:

a plurality of transceivers, receiving and transmitting RF signals;
a plurality of RF processing units, processing said received signals or signals to be transmitted by said transceivers;

RF resources allocator, detecting the information contained in received
20 signals from a uplink on the types of the different wireless communication schemes which are requested to access, and allocating RF resources shared by

said different communications schemes according to said detected information.

30.The system of claim 29, wherein said RF resources allocator allocates
5 said RF resources according to a statistic of the information on the requests
for accessing each of said different wireless communication schemes within a
set interval.

31.The system of claim 30, wherein said information on the requests for
10 accessing each of said different wireless communication schemes includes the
number of the requests for accessing each of said different wireless
communication schemes.

32.The system of claim 31, wherein said RF resources allocator realizes
15 said RF resources allocation by calculating the ratio of the number of the
requests for accessing each of said different wireless communication schemes.

33.The system of any of claims 30-32, wherein said statistic is achieved
by carrying out a statistic of said information on the requests for accessing
20 each of said different wireless communication schemes within the set whole
interval.

34.The system of any of claims 30-32, wherein, said statistic is achieved by carrying out a statistic of said information on the requests for accessing each of said different wireless communication schemes within rush hours of the set interval.

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35.The system of claim 29, wherein said RF resources allocation executed by said RF resources allocator includes:

(b) judging whether there are RF resources available for the requests for accessing said different wireless communication schemes; and

10 (c) allocating said available RF resources to said requests, if there are RF resources available for said requests.

36.The system of claim 29, wherein said RF resources allocation executed by said RF resources resources allocator includes:

15 (a) pre-allocating said RF resources to a specific communication scheme;

(b) judging whether there are RF resources available for the requests for accessing the different wireless communication schemes, if the different wireless communication schemes are not the specific communication scheme; and

20 (c) allocating said available RF resources to said requests, if there are RF resources available for said requests.

37.The system of claims 35 or 36, wherein step (b) and (c) are executed in following condition:

subscribers send said connection requests for accessing the different
5 wireless communication schemes.

38.The system of claims 35 or 36, wherein step (b) and (c) are executed in following condition:

subscribers which carry out cell handover send said handover requests
10 for accessing the different wireless communication schemes.

39.The system of claims 35 or 36, wherein said RF resources allocation executed by said RF resources allocator includes:

judging whether there are RF carriers available for said requests for
15 accessing the different wireless communication schemes, if there are no RF resources available for said requests; and

allocating said available RF carriers to the different wireless communication schemes, if there are RF carriers available for said requests, and allocating the corresponding RF resources to said requests.

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40.The system of claim 39, wherein said RF resources allocation

executed by said RF resources allocator includes:

when the communications employing said different wireless communication schemes end, said RF carriers allocated to said requests are released.

5 41.The system of claim 39, wherein said RF resources allocation executed by said RF resources allocator includes:

if there are no RF carriers available for said requests, said requests are rejected.

10 42.The system of claim 39, said different wireless communication schemes include at least two of following: IS-95, CDMA, GSM, TSM, GPRS, TD-SCDMA, W-CDMA, cdma 2000 and WLAN.